

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## BEST AVAILABLE IMAGES

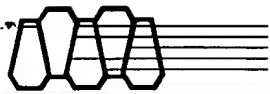
Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.



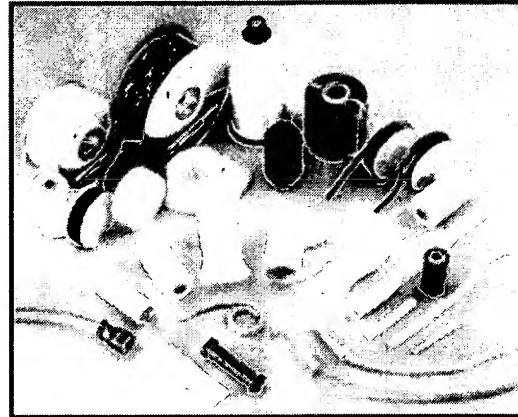
## Flat Braided Tapes

### Only single source for all Stator Lacing needs

At Western Filament, specialists in textiles, chemicals, plastics, and process control, combine their skills to produce a complete line of flat or round braided tapes and twisted cords to meet the most stringent stator lacing requirements.

### Flat Braided Tapes

Trouble free lacing for stator tying, coil wrapping and other electrical applications. Shrinks to fit, lays flat, stays in place, and won't snag or fray.



### Polyester Tapes (Class F\*)

- Typical shrinkage 10-11% at 325°F/1 hr.

High tenacity continuous filament braided polyester (Dacron®) yarn. Western Filament's DHS tape minimizes snagging, improves the insulation bond, and when coated will not frizz, fray or unravel.

*\*NOTE: Supplied with Western Filament's "CL" Coating (See Coatings\*\*)*

Part Number	Nominal Width Inches	Nominal Thickness Inches	Break Lbs.	Standard Put-up
DHS-00CL	.500	.032	700	250 ft.
DHS-0CL	.375	.028	450	250 yds.
DHS-1CL	.225	.015	190	250 yds.
DHS-2CL	.125	.015	80	250 yds.
DHS-3CL	.080	.015	50	500 yds.
DHS-4CL	.062	.015	35	500 yds.

### Pre-Shrunk Polyester (Class F\*)

- Less than 3% RS at 350°F/1 hr.

For fine wire or soft insulation systems where shrinkable tensions are undesirable.

*\*NOTE: Supplied with Western Filament's "CL" Coating (see coatings\*\*).*

Part Number	Nominal Width Inches	Nominal Thickness Inches	Break Lbs.	Standard Put-up
DPS-00CL	.500	.032	700	250 ft.
DPS-0CL	.375	.028	450	250 yds.
DPS-1CL	.200	.015	190	250 yds.
DPS-2CL	.125	.015	80	250 yds.
DPS-3CL	.080	.015	50	500 yds.
DPS-4CL	.062	.015	35	500 yds.

### Kevlar® Tape (Class H)

A high temperature, high strength material from DuPont. Kevlar® provides the advantages of fiberglass without causing skin irritation and processing problems. Kevlar® is approximately four times stronger than Nomex® and decomposes at about 900°F.

**\*\*COATINGS** - add the code letter designating the finish to the end of the part number. CL-Polyurethane; X-Uncoated; S - Silicone; W - Wax

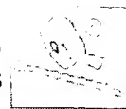
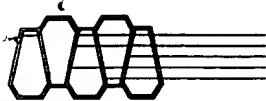
® DACRON, KEVLAR, and NOMEX are DuPont registered trademarks.

### Fiberglass Tape (Class H)

Fiberglass, the industry standard for "Class H" applications. It is strong, heat resistant, and non-flammable. Available in a variety of flat braided constructions.

### Nomex® Tape (Class H)

DuPont's Aramid fibers are braided into a smooth flat tape which is stable at high temperatures, self-extinguishing and suitable for hermetic or conventional applications. Available Coated or Uncoated. Carbonizes at 800°F.



## Lacing and Spot Tying Materials

For Aircraft, Electrical, Electronic and Space Vehicle Harnessing

### Round Twisted Twines

Per MIL-T-713



Round twisted constructions are used primarily by electrical and "non-flight" hardware producers. Primary advantages include low cost and established industry acceptance. Though round twisted constructions provide less "gripping" area on the bundle, and do not accept impregnation as completely as flat tapes, they still enjoy continued widespread usage throughout industry.

### Flat Braided Tapes

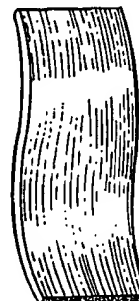
Per CID-A-A-52080B, 081B, 082B, 083B, and 084B (Formerly MIL-T-43435)



Flat Braided Tapes are the "second generation" lacing/spot tying construction. They are designed to provide maximum strength with minimum space requirements. Other advantages include increased gripping area and superior impregnation characteristics. Flat braided tapes are specified for most military and space oriented applications, and are currently finding increased usage among commercial, electrical and electronic manufacturers.

### Non-Braided Flat Tapes

Not to Military Specifications



Nylon Mono-ty constructions provide a low cost non-braided material for use in commercial electronics and non-flight hardware. Oriented Nylon fibers are formed into a flat ribbon-like construction and impregnated with microcrystalline wax. Mono-ty constructions exceed IBM 147440, and similar industry requirements.

## Materials (Specified in CID-A-A-52080B, 081B, 082B, 083B, and 084B—Formerly MIL-T-43435)

Type	Material Description	Approx. Operating Temp. Range	Finishes Available
52080B	Polyamide (Nylon)	-67°F, +350°F	Wax, synthetic elastomer, vinyl resin, liquid nylon or uncoated
52081B	Polyester (Dacron®)	-100°F, +350°F	Wax, synthetic elastomer, or vinyl resin
52082B	Tetrafluorocarbon (Teflon®)	-100°F, +450°F	Synthetic elastomer
52083B	Fiberglass	-100°F, +800°F	Teflon coating w/synthetic elastomer, or vinyl resin
52084B	High Temp Polyamide (Nomex®)	-100°F, +500°F	Wax, synthetic elastomer, or vinyl resin
<b>Specified in MIL-T-713E</b>			
P (Unwaxed)	Polyamide (Nylon)	-67°F, +350°F	No finish. Specify Type P unwaxed
P (Waxed)	Polyamide (Nylon)	-67°F, +350°F	Microcrystalline fungicidal wax

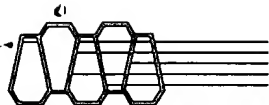


## Coatings and Impregnations (For Knot Holding and Fungus Resistance)

Mil-Spec Finish Designation	Finish Description	Western Filament Designation	Ordering Description
A	Material is left in the uncoated condition	X	Specify uncoated
B	Microcrystalline Fungicidal Wax	W	Wax
C	Synthetic Elastomer Rubber	G	Synthetic elastomer
D	Individual Fibers uniformly coated with Tetrafluorocarbon (Teflon®)	LOF	Teflon - Usually also requires vinyl or synthetic elastomer coating for knot holding
E	Vinyl Chloride or Vinyl Chloride-Acetate Copolymer Coating	A	Vinyl
F	Silicone resin impregnated	S	Silicone
G	Liquid Nylon	N	Nylon

® DACRON, TEFLON, and NOMEX are DuPont registered trademarks.





## Lacing Tapes

### Nylon Lacing Tape

Consisting of flat braided, high tenacity nylon yarn, impregnated with microcrystalline fungicidal wax or other impregnations to meet military, NASA and industry specifications.

(A-A-52080B—Formerly MIL-T-43435, AMS 3815, AMS 3816, AMS 3817).

Western Filament Part No.	Mil Spec Size	Width Inches $\pm 10\%$	Thickness Inches $\pm .003$	Min Break Lbs.	Put-Up Yds.
150 NOF 29	1	.200	.016	135	250
80 NOF 29	2	.110	.015	80	250
50 NOF 17	3	.085	.014	50	500
35 NOF 13	4	.060	.012	25	500
25 NOF 9	5	.050	.010	15	500
15 NOF 9	---	.040	.012	15	500

Finish Coating: Specify desired finish from code letters\*:

X-Uncoated (Mil Spec A); W-Wax (Mil Spec B); G-Synthetic Elastomer (Mil Spec C); A-Vinyl (Mil Spec E);

N-Liquid Nylon (Mil Spec G)

COLORS: Natural, Black, and Colors.

### Polyester Lacing Tape

Consisting of flat braided, high tenacity polyester yarns, impregnated with appropriate finishes to meet military, NASA and industry specifications.

(A-A-52081B—Formerly MIL-T-43435)

Western Filament Part No.	Mil Spec Size	Width Inches $\pm 10\%$	Thickness Inches $\pm .003$	Min Break Lbs.	Put-Up Yds.
145 DOF 29	1	.200	.016	135	250
80 DOF 29	2	.110	.015	80	250
50 DOF 17	3	.085	.014	50	500
35 DOF 13	4	.060	.012	25	500
20 DOF 9	5	.050	.010	15	500
15 DOF 9	---	.040	.012	15	500

Finish Coating: Specify desired finish from code letters\*:

X-Uncoated (Mil Spec A); W-Wax (Mil Spec B); G-Synthetic Elastomer (Mil Spec C); A-Vinyl (Mil Spec E)

COLORS: Natural, Black, and Colors.

### Teflon® Lacing Tape

Flat braided tetrafluorocarbon (teflon). Ideal for high temperature applications. Highly resistant to fluids, fuels and chemicals. Will not outgas under critical vacuum conditions. Meets military and industry specifications.

(A-A-52082B—Formerly MIL-T-43435)

Western Filament Part No.	Mil Spec Size	Width Inches $\pm 10\%$	Thickness Inches $\pm .003$	Min Break Lbs.	Put-Up Yds.
35 TOF 29	2	.120	.011	30	250
15 TOF 13	4	.065	.011	15	500
On request	5	.025	.011	10	500

Finish Coating: Specify desired finish from code letters\*:

X-Uncoated (Mil Spec A); G-Synthetic Elastomer (Mil Spec C); A-Vinyl (Mil Spec E)

COLORS: Teflon Brown.

\*NOTE: When ordering, add finish code letter to end of part number. Example: 50 NOF 17 with Wax Finish = 50 NOF 17W  
Example: 190 LOF 21 with synthetic elastomer and vinyl finish = 190 LOF 21G/A

® TEFLON and NOMEX are DuPont registered trademarks.

### Teflon® Coated Fiberglass Lacing Tape

Individual glass fibers, uniformly coated with tetrafluorocarbon (teflon) and braided into a flat tape. This construction is ideal for high temperature applications and resists most fuels, fluid and chemicals. Will not outgas under critical vacuum conditions. Meets military and industry specifications.

(A-A-52083B—Formerly MIL-T-43435)

Western Filament Part No.	Mil Spec Size	Width Inches $\pm 10\%$	Thickness Inches $\pm .003$	Min Break Lbs.	Put-Up Yds.
275 LOF 29	1	.225	.016	200	250
190 LOF 21	2	.110	.016	100	250
100 LOF 15	3	.085	.016	75	500
60 LOF 13	4	.060	.016	50	500
50 LOF 9	5	.050	.016	---	500

Finish Coating: Specify desired finish from code letters\*:

X-Uncoated (Mil Spec A); G-Synthetic Elastomer (Mil Spec C); A-Vinyl (Mil Spec E)

COLORS: Natural (white)

### Nomex® Lacing Tape

High temperature polyamide fibers braided into a flat tape and impregnated with appropriate Mil Spec finishes for improved knot holding characteristics.

(A-A-52084B—Formerly MIL-T-43435)

Western Filament Part No.	Mil Spec Size	Width Inches $\pm 10\%$	Thickness Inches $\pm .003$	Min Break Lbs.	Put-Up Yds.
130 HOF 25	1	.200	.016	85	250
70 HOF 25	2	.110	.014	50	250
40 HOF 17	3	.075	.012	35	500
30 HOF 13	4	.055	.010	25	500
20 HOF 9	---	.040	.008	15	500

Finish Coating: Specify desired finish from code letters\*:

X-Uncoated (Mil Spec A); W-Wax (Mil Spec B); G-Synthetic Elastomer (Mil Spec C); A-Vinyl (Mil Spec E)

COLORS: Natural (white). Colored tracers available upon request.

### Type P - Nylon Lacing Twine

Round, twisted high tenacity nylon fibers impregnated with microcrystalline fungicidal wax or other finishes to meet military (MIL-T-713) and industry specifications.

Western Filament Part No.	Mil Spec Size	Yield Yds/Lb Min.	Yield Unwaxed Min.	Min Break Lbs.	Put-Up
70 NOZ 3	1	550	650	70	1 lb.
48 NOZ 3	2	750	950	48	1 lb.
32 NOZ 3	3	1100	1400	32	1 lb.
20 NOZ 2	4	1975	2400	20	1 lb.

Finish Coating: Specify desired finish from code letters\*:

X-Uncoated; W-Wax

COLORS: Natural (white) or Black.